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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,987	12/24/2001	Isaac Levanon	FLVT3001	3638
24101	7590	07/29/2005	EXAMINER	
BRUCE E. LILLING LILLING & LILLING P.C. P.O. BOX 560 GOLDEN BRIDGE, NY 10526			LAZARO, DAVID R	
			ART UNIT	PAPER NUMBER
			2155	

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,987

Applicant(s)

LEVANON ET AL

Examiner

David Lazaro

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-22 are pending in this office action.

Priority

2. This application claims the benefit of the following applications, each filed on 12/27/2000: 60/258,488; 60/258,489; 60/258,465; 60/258,466; 60/258,467; 60/258,468.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 8-12 and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,704,024 by Robotham et al. (Robotham).
5. With respect to Claim 1, Robotham teaches a method of retrieving large-scale images over network communications channels for display on a client device, said method comprising the steps of: a) selecting, based on an operator controlled image viewpoint relative to a predetermined image, an update image parcel to display via said client device (Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62); b) preparing a request for said update image parcel (Col. 15 lines 31-43, Col. 17 lines 22-42)

wherein said request is associated with a request queue (Col. 39 lines 8-25); c) issuing said request over a communications channel (Col. 15 lines 31-43, Col. 17 lines 22-42, and Col. 27 lines 49-60); d) receiving said update image parcel from said communications channel (Col. 27 line 49 - Col. 28 line 63); and e) displaying said update image parcel as a part of said predetermined image, wherein said update image parcel uniquely forms a discrete portion of said predetermined image (Col. 27 line 49 - Col. 28 line 63, and Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62).

6. With respect to Claim 8, Robotham teaches a method of transferring Large-scale images over a network with limited communications bandwidth, said method comprising: a) requesting image parcels from a network image parcel server (Col. 15 lines 31-43, Col. 17 lines 22-42) providing for a progressive resolution enhancement of a defined image and subject further to an ordering reflecting a current image view point relative to said defined image (Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62); b) receiving image parcels from said network image parcel server (Col. 27 line 49 - Col. 28 line 63), wherein said image parcels includes fixed dimension arrays of image pixel data (Col. 15 line 45 - Col. 16 line 12); and c) displaying said image parcels as corresponding portions of said defined image (Col. 27 line 49 - Col. 28 line 63, and Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62).

7. With respect to Claim 9, Robotham teaches all the limitations of Claim 8 and further teaches wherein said step of displaying includes a step of rendering of said fixed dimension arrays of image pixel data to a display of predetermined resolution (Col. 19 lines 37-59 and Col. 20 lines 1-29) wherein said fixed dimension arrays of image pixel

date are sampled to obtain arrays of display pixel data corresponding to said predetermined resolution (Col. 27 line 49 - Col. 28 line 63, and Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62).

8. With respect to Claim 10, Robotham teaches all the limitations of Claim 9 and further teaches wherein said image parcels received from said network image parcel server are received through a packetized network and wherein said fixed dimension arrays of image data are sized such that said image parcels are received in respective network packets (Col. 11 line 58 - Col. 12 line 32 and Col. 27 lines 49-60).

9. With respect to Claim 11, Robotham teaches all the limitations of Claim 10 and further teaches wherein said fixed dimensional arrays of image data are block compressed using a fixed ration compression algorithm (Col. 12 lines 4-6 and Col. 27 lines 24-36).

10. With respect to Claim 12, Robotham teaches all the limitations of Claim 11 and further teaches wherein said fixed dimension arrays of image data have a minimum dimension of 16x16 pixels (Col. 15 lines 57-67).

11. With respect to Claim 19, Robotham teaches a display system for displaying a large-scale image retrieved over a limited bandwidth communications channel, said display system comprising: a) a display of defined screen resolution for displaying a defined image (Col. 19 lines 37-59 and Col. 20 lines 1-29); b) a memory providing for the storage of a plurality of image parcels displayable over respective portions of a mesh corresponding to said defined image (Col. 8 lines 22-52); c) a communications channel interface supporting the retrieval of a defined image parcel (Col. 15 lines 31-43,

Col. 17 lines 22-42); and d) a processor coupled between said display, memory and communications channel interface (Col. 8 lines 22-52), said processor operative to select said defined image parcel, retrieve said defined image parcel via said communications channel interface for storage in said memory (Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62), and uniquely render said defined image parcel over a discrete portion of said mesh to provide for a progressive resolution enhancement of said defined image on said display (Col. 27 line 49 - Col. 28 line 63, and Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62).

12. With respect to Claim 20, Robotham teaches all the limitations of Claim 19 and further teaches wherein said processor is responsive to said defined screen resolution and wherein said processor is operative to limit selection of said defined image parcel to where the resolution of said defined image parcel is less than or equal to said defined screen resolution (Col. 19 lines 37-59 and Col. 20 lines 1-29).

13. With respect to Claim 21, Robotham teaches all the limitations of Claim 20 and further teaches wherein said processor is operative to prioritize the retrieval of said image parcel among a plurality of selected image parcels pending retrieval, wherein the relative priority of said image parcel is based on the difference in the resolution of said image parcel and the resolution of said plurality of selected image parcels (Col. 28 lines 48-63, Col. 29 lines 15-24, and Col. 30 line 50 - Col. 31 line 26).

14. With respect to Claim 22, Robotham teaches all the limitations of Claim 21 and further teaches wherein said processor is response to user navigation commands to define an image viewpoint relative to said defined image and wherein said processor is

further operative to prioritize the retrieval of said image parcel based on the distance between said image parcel and said image viewpoint relative to said defined image (Col. 28 lines 48-63, Col. 29 lines 15-24, and Col. 30 line 50 - Col. 31 line 26).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 2-7 and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robotham in view of U.S. Patent 6,397,259 by Lincke et al. (Lincke).

17. With respect to Claim 2, Robotham teaches all the limitations of Claim 1 and further teaches said communications channel is a packetized communications channel (Col. 8 lines 9-21, Col. 26 line 60 - Col. 27 line 12 and Col. 27 lines 49-60). Robotham further teaches a reduction in the quantity of data transmitted to the client (Col. 11 line 58 - Col. 12 line 32).

However, Robotham does not explicitly disclose the update image parcel is received in a single packet. Lincke teaches that image data can be reduced such that an image parcel can be received in a single data packet (Col. 7 lines 36-54, Col. 22 lines 56-65 and Col. 64 lines 35-52). This reduces the amount of traffic on a wireless

communication link and improves access to information over the communication link (Col. 7 lines 36-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Robotham and modify it as indicated by Lincke such that the method further comprises wherein said update image parcel is received from said packetized communications channel in a single data packet. One would be motivated to have this, as it is desirable to improve access to information available over low bandwidth networks (In Lincke: Col. 4 lines 38-40 and Col. 7 lines 36-54).

18. With respect to Claim 3, Robotham in view of Lincke teaches all the limitations of Claim 2 and further teaches wherein said single data packet contains said update image parcel as a compressed data representation of said discrete portion of said predetermined image (In Robotham: Col. 12 lines 4-6 and Col. 27 lines 24-36).

19. With respect to Claim 4, Robotham in view of Lincke teaches all the limitations of Claim 3 and further teaches wherein said single data packet contains said update image parcel as a fixed compression ration representation of said discrete portion of said predetermined image (In Robotham: Col. 12 lines 4-6 and Col. 27 lines 24-36).

20. With respect to Claim 5, Robotham in view of Lincke teaches all the limitations of Claim 2 and further teaches wherein said update image parcel contains pixel data in a fixed size array independent of the pixel resolution of said predetermined image (In Robotham: Col. 21 lines 53-63).

21. With respect to Claim 6, Robotham in view of Lincke teaches all the limitations of Claim 5 and further teaches wherein said step of preparing includes associating a prioritization value to said request, wherein said prioritization value is based on the resolution of said update image parcel relative to that of other image parcels previously received by said client device; and wherein said step of issuing said request is responsive to said prioritization value for issuing said request in a predefined prioritization order (In Robotham: Col. 28 lines 48-63, Col. 29 lines 15-24, and Col. 30 line 50 - Col. 31 line 26).

22. With respect to Claim 7, Robotham in view of Lincke teaches all the limitations of Claim 6 and further teaches wherein said prioritization values is further based on the relative distance of said update image parcel from said operator controlled image viewpoint (In Robotham: Col. 28 lines 48-63, Col. 29 lines 15-24, and Col. 30 line 50 - Col. 31 line 26).

23. With respect to Claim 13, Robotham teaches a method of transferring a large-scale image over a network with limited communications bandwidth for display on a client device having a screen of limited resolution, said method comprising: a) selecting, for update, an image parcel having a defined parcel resolution and corresponding to a defined portion of a defined image that is displayed on a screen of defined screen resolution (Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62), wherein selection of said image parcel provides for a progressive resolution enhancement of said defined image (Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62) subject to said defined parcel resolution being less than or equal to said defined screen

resolution (Col. 19 lines 37-59 and Col. 20 lines 1-29); b) requesting said image parcel from a network image parcel server by reference to said defined portion of said defined image (Col. 15 lines 31-43, Col. 17 lines 22-42); c) receiving said image parcel from said network image parcel server as data of a fixed dimension array of image pixel data (Col. 27 line 49 - Col. 28 line 63); and d) displaying said image parcel as said defined portion of said defined image (Col. 27 line 49 - Col. 28 line 63, and Col. 10 lines 11-27, Col. 26 lines 36-47, Col. 28 lines 58-62). Robotham further teaches a reduction in the quantity of data transmitted to the client through various techniques (Col. 11 line 58 - Col. 12 line 32).

However, Robotham does not explicitly disclose the image parcel is received in a single packet. Lincke teaches that image data can be reduced such that an image parcel can be received in a single data packet (Col. 7 lines 36-54, Col. 22 lines 56-65 and Col. 64 lines 35-52). This reduces the amount of traffic on a wireless communication link and improves access to information over the communication link (Col. 7 lines 36-34).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Robotham and modify it as indicated by Lincke such that the method further comprises receiving said image parcel from said network image parcel server in a single data packet as a fixed dimension array of image pixel data. One would be motivated to have this, as it is desirable to improve access to information available over low bandwidth networks (In Lincke: Col. 4 lines 38-40 and Col. 7 lines 36-54).

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25. With respect to Claim 14, Robotham in view of Lincke teaches all the limitations of Claim 13 and further teaches wherein said defined image is displayed as a mesh composite of a plurality of current image parcels and wherein said step of requesting provides for prioritizing the request of said image parcel among a plurality of pending requests for image parcels wherein the relative priority of said image parcel is based on the difference in said defined parcel resolution and the resolution of said plurality of current image parcels (Robotham: Col. 28 lines 48-63, Col. 29 lines 15-24, and Col. 30 line 50 - Col. 31 line 26).

26. With respect to Claim 15, Robotham in view of Lincke teaches all the limitations of Claim 14 and further teaches wherein the relative priority of said image parcel is further based on the distance between said image parcel and a current image viewpoint relative to said defined image (Robotham: Col. 28 lines 48-63, Col. 29 lines 15-24, and Col. 30 line 50 - Col. 31 line 26).

27. With respect to Claim 16, Robotham in view of Lincke teaches all the limitations of Claim 15 and further teaches wherein said fixed dimension arrays of image data have a minimum dimension of 16x16 pixels (Robotham: Col. 15 lines 57-67).

28. With respect to Claim 17, Robotham in view of Lincke teaches all the limitations of Claim 16 and further teaches where said fixed dimension array of image pixel data is block compressed to fit said image parcel in said single data packet (In Robotham: Col. 12 lines 4-6 and Col. 27 lines 24-36).

29. With respect to Claim 18, Robotham in view of Lincke teaches all the limitations of Claim 17 and further teaches wherein said fixed dimensional arrays of image data are

block compressed using a fixed ration compression algorithm (In Robotham: Col. 12 lines 4-6 and Col. 27 lines 24-36).

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

31. U.S. Patent 6,711,297 by Chang et al. "Method and apparatus for dynamic transfer of image data" March 23, 2004. Discloses client requesting the server coefficients necessary to reconstruct a new view.

32. U.S. Patent 6,345,279 by Li et al. "Methods and apparatus for adapting multimedia content for client devices" February 5, 2002. Discloses transcoding multimedia content into a plurality of transcoded content version having different modalities and resolutions.

33. U.S. patent 6,326,965 by Castelli et al. "Interactive Representation and Retrieval of Multi-Dimensional Data Using View Elements" December 4, 2001. Discloses progressive view construction from view elements created by decomposition of image data.


34. U.S. Patent 6,314,452 by Dekel et al. "System and method for transmitting a digital image over a communication network" November 6, 2001. Discloses a image system that streams ROI data to provide image data to clients. Supports progressive transmission by resolution, accuracy or spatial order.

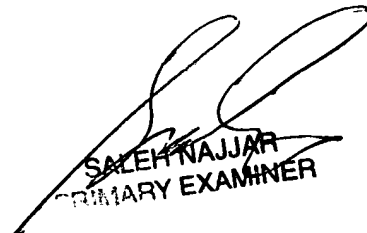
35. U.S. Patent 6,212,301 by Warner et al. "Systems and methods for digital image compression" April 3, 2001. Discloses a progressive transmission scheme.
36. U.S. Patent 6,182,114 by Yap et al. "Apparatus and method for realtime visualization using user-defined dynamic, multi-foveated images" January 30, 2001. Discussed in applicant's specification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David Lazaro
July 22, 2005


SALEH NAJJAR
PRIMARY EXAMINER